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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,184	02/18/2004	Paul Ying-Fung Wu	X-1389-1P US	4548
24309	7590	07/13/2005	EXAMINER	
XILINX, INC ATTN: LEGAL DEPARTMENT 2100 LOGIC DR SAN JOSE, CA 95124			ABRAHAM, FETSUM	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.D

**Office Action Summary**

Application No.

10/782,184

Applicant(s)

WU ET AL.

Examiner

Fetsum Abraham

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 28 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) 9, 11 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/25/05</u> . | 6) <input type="checkbox"/> Other: _____  |

### FINAL ACTION

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6-8,10,12,18 are rejected under 35 U.S.C. 102(b) as being anticipated by Glenn (5,949,655).

The patent discloses a packaging structure in figure 5 comprising a lid (34) having a recessed portion to accommodate an IC element (10), attached to a substrate (16), the IC (10) positioned on the substrate, the lid having foot portion at both ends having planar surface and coupled or adhered to the substrate by a bonding means, and the lid further having recessed regions at the lower internal edges of the foot.

As for claim 7, the plurality of recesses at the foot sections expose the bonding means or agent underneath partially.

As for claim 8, the recesses comprise beveled edges in relation to the substrate.

As for claim 10, there is an adhesive (22) between most part of the lid and the substrate.

As for claim 12, the substrate and the lid are partially connected to each other by the adhesive means (22) that fills the recess portion of the lid.

As for claim 18, the prior art was formed by the claimed steps.

As for claim 19, the step of creating the foot portion of the lid in the prior art involves creating a planar surface for solid contact with the substrate.

As for claims 20,21,24, the step of making the recesses involves the step of etching and providing beveled foot edges.

As for claims 22,25, the step of forming the recesses involves molding or filling the recesses by the adhesive material (22) provided on the substrate.

As for claim 23, the recesses were formed such that they reduce the width of the foot portions.

As for claim 27, a step in the making of the prior art structure comprises providing adhesive layer (22) between the two elements.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-17,26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glenn in view of Guthrie et al (6,352,195).

As for claims 13,26, the primary reference might have been silent on the using solder bond to connect the lid and the substrate. However, the secondary reference uses the material for the claimed purpose (see claim 1). Therefore, it would have been obvious to one skilled in the art to use solder bond to attach the lid and the substrate of the primary reference since it is known to provide dependable and air tight packaging means for integrated circuits.

As for claim 14, lid to substrate connection with solder bond means is applied at the contact surface level of both elements.

As for claim 15, the claimed solder bond and that taught in the secondary reference are alternates to the bonding element used in the primary reference since they serve similar purpose. In view of that understanding, the adhesive (22) can be used with the solder bond means under discussion similar to the way it is used with bonding means of the primary reference. Therefore, it would have been obvious to one skilled in the art to use solder bond means of the secondary reference instead of the bonding agent of the primary reference in the packaging structure of the primary reference to take advantage of its air tight and reliable adherence capacity and further provide the adhesive means of the primary reference to guarantee stronger and more durable packaging between the lid and the substrate of the prior art.

As for claim 16, the recess in the primary reference has a partially conical surface from broad understanding of "partial conical". In this pretext any shape partially defined by a conic shape is inclusive. The arc shape or the recess in the prior art is a subset of the multiple arcs on the circular upper surface of a conic shape.

Claims 9, 11, 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-5, 28 has been allowed.

The claimed foot portion having a surface with extended (not compressed) width from said recessed portion, the surface adapted to couple with said substrate and the recessed portion having a reduced width compared to said surface and the motivation

of the shape being to create a better adherence with the substrate in view of its large surface are is not taught or rendered obvious by the prior art.

The method of connecting the lid and the substrate in claim 28 by using bonding agent ion a substrate and forcing it to penetrate through the conical holed formed in the foot section of the lid is not taught or rendered obvious by the prior art.

Applicant's submission of the requirements for the joint research agreement prior art exclusion under 35 U.S.C. 103(c) on 4/67/25 prompted the new ground(s) of rejection under 37 CFR 1.109(b) presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.02(I)(3). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fetsum Abraham whose telephone number is: 571-272-1911. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Nathan J Flynn can be reached on 571-272-1915.

  
Fetsum Abraham  
7/6/05